

Reference number 27 indicates a control section of the frequency converter.

The switch arrangement 26, according to the present invention, of the braking system for the motor of the propulsion unit comprises means for disconnecting the motor 23 from the electrical power network, and means for short-circuiting the stator windings of the permanently magnetized motor 23. When a need for braking the motor 23 is detected, first the motor 23 is disconnected from the electrical power network. Subsequently <sup>the</sup> stator windings of the motor 23 are switched into a short-circuit. The short-circuit can also be implemented such, that the stator windings of the motor 23 simultaneously are connected to equipment ground.

The switch arrangement 26 can be controlled e.g. by the control section 27 of the frequency converter. For example a synchronous motor 23 can be utilized as the permanently magnetized motor 23 of the propulsion unit. The motor units 10, 11 of the turning arrangement can, for example, also constitute the permanently magnetized motors 23. The braking method, according to the present invention, for a motor of a propulsion unit can also be implemented for switching more than one motor.

Figure 5 shows a typical short-circuit curve of a permanently magnetized motor of a propulsion unit according to the present invention. The short-circuit curve of the motor is indicated by the reference numeral 28. When the stator windings of the permanently magnetized motor are short-circuited, the short-circuit moment is so large, that it is generously sufficient for resisting the moments induced by the ship's movements and sea currents. Thus at all times one stays to the

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